

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOUTH DAKOTA	029 S-171, 029 S-172, & 029 N-291	2	10

ESTIMATE OF QUANTITIES

Project 029 S-171, PCN i62K, Deuel County

BID ITEM			
NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
634E0010	Flagging	25.0	Hour
634E0110	Traffic Control Signs	260.3	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	5	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
900E1256	Abrasive Blasting of PCC Pavement	14,184.6	SqYd

Project 029 S-172, PCN i62L, Roberts County

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	234.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	4	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
900E1256	Abrasive Blasting of PCC Pavement	10,477.8	SqYd

Project 029 N-291, PCN i6CF, Union County

BID ITEM NUMBER	ITEM QUANTITY		UNIT
009E0010	Mobilization	Lump Sum	LS
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	249.9	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
900E1256	Abrasive Blasting of PCC Pavement	8,433.3	SqYd

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

- 1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".
- 2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

Action Taken/Required:

All earth disturbing activities require a cultural resource review prior to scheduling the pre-construction meeting. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOUTH DAKOTA	029 S-171, 029 S-172, & 029 N-291	3	10

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

The Contractor is responsible for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

SCOPE OF WORK

Work on this project will require pavement texturing of 3 segments of I 29. Segments are as follows:

- North bound lanes located in Union County near Exit 1.
- South bound lanes located in Deuel County near Exit 157.
- South bound lanes located in Roberts County near Exit 213.

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting.

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

GENERAL TRAFFIC CONTROL

Traffic Control will be maintained as per Standard Plate 634.63. One lane of traffic will be maintained at all times.

The 4" white/yellow temporary pavement marking tape and/or temporary raised pavement markers, as depicted on Standard Plate 634.63, will be required as indicated. The Contractor will be responsible for installing and removing these items at their own expense.

It will not be an option to leave lane closures in place overnight on the PCN i6CF project site in Union County.

The Contractor will accommodate over-width vehicles up to 16 feet wide at all times through the project.

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

All construction operations will be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment will be repaired at no expense to the Department.

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer. At no time will construction vehicles utilize the maintenance crossovers or the Interstate median to exit or enter Interstate traffic.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans. Additional Type 3 Barricades will be installed facing traffic within the closed lane at a spacing of $\frac{1}{4}$ mile.

TRAFFIC CONTROL SIGNS

Traffic Control Signs, Type 3 Barricades and Type C Advance Warning Arrow Boards will be measured and paid for on each project site.

WORK ZONE SPEED REDUCTION

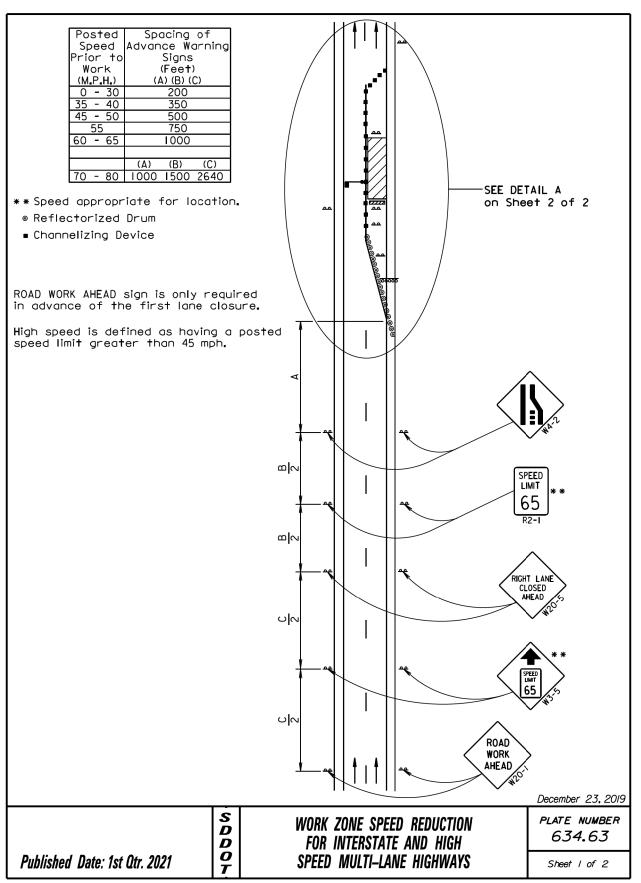
The Department is required to obtain a speed reduction resolution prior to the installation of any SPEED LIMIT (R2-1) signs shown on standard plate 634.63. To provide adequate time for the resolution to be enacted, the Contractor will inform the Engineer a minimum of 3 weeks prior to the scheduled installation of any work zone speed reduction signs on the project. The information provided by the Contractor will include the anticipated date of sign installation, the newly reduced speed limit, the location of the work zone, and the anticipated completion date of work requiring the speed reduction.

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SOUTH			
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PAVEMENT TEXTURING

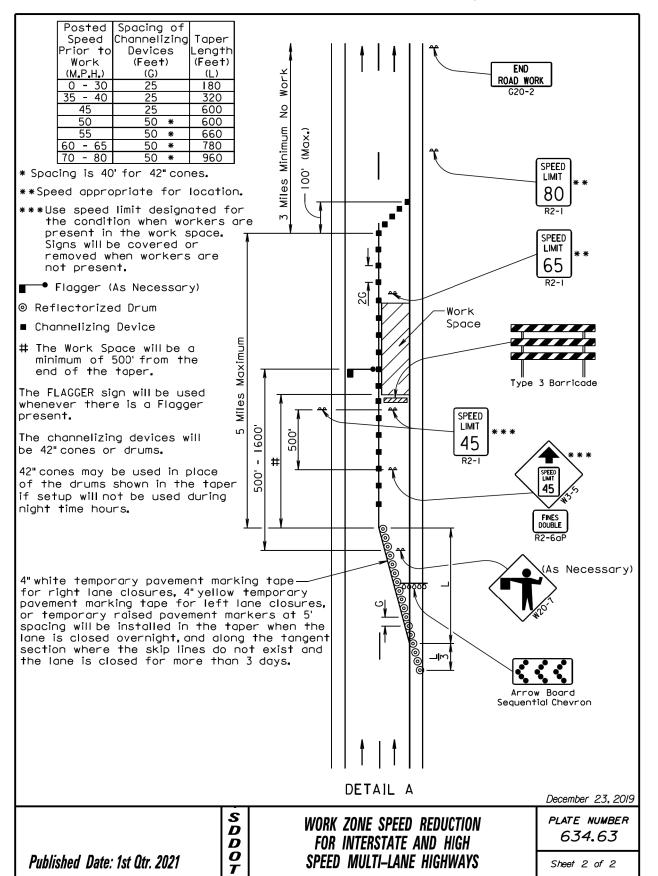
Begin	End	Segment Length	Lane Width	Number	Total Area			
Stationing	Stationing	(Ft)	(Ft)	of Lanes	(SqYd)	Comments		
029 S-1	029 S-171, PCN i62K, Deuel County							
3+32.00	55+00.00	5168	11.5	2	13,207.1			
40+25.00	47+90.00	765	11.5	1	977.5	Deceler- ation Lane		
029 S-1	72, PCN i62L,	Roberts Cou	nty					
9+00.00	50+00.00	4100	11.5	2	10,477.8			
029 N-2	91, PCN i6CF,	Union Coun	ty					
995+00	1017+00	2200	11.5	3	8433.3	**		
				TOTAL	33,095.7			

^{**} From Sta 995+00 to 998+00 the outside lane develops into an off ramp for Exit 1, and the lane begins to increase in width. In this area the pavement texturing will be done in the center of this widening lane.



PROJECT TOTAL SHEETS STATE OF SHEET 029 S-171, 029 S-172 5 10 DAKOTA 029 N-291

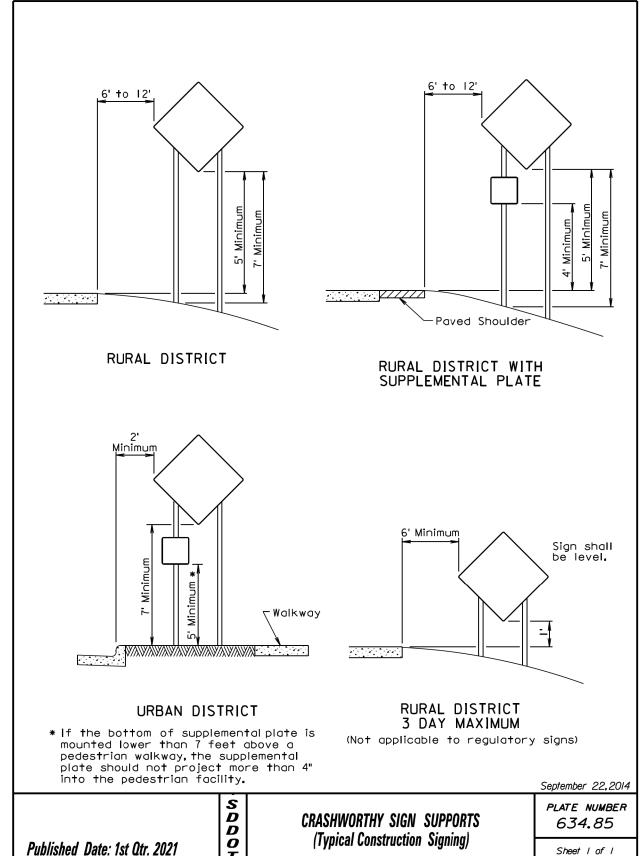
Plotting Date: 03/19/2021



Spacing of Posted Advance Warning Taper Speed Length Signs Prior to (Feet) Work (Feet) (M.P.H.) (A) (B) (C) 0 - 30 180 45 - 50 500 600 55 660 780 (A) (B) (C) 70 - 80 | 1000 | 1500 | 2640 | 1125 Posted Spacing of Speed Channelizing Devices Prior to (Feet) 0 - 30 50 * * Spacing is 40' for 42" cones. ○ Reflectorized Drum ■ Channelizing Device 4 White Temporary Pavement Marking 4 4" Yellow Temporary Pavement Marking EXIT XXX (60"×48") The channelizing devices shall be drums or 42" cones if traffic control must remain overnight. 42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours. ROAD WORK June 3, 2016 S D D O T PLATE NUMBER **GUIDES FOR TRAFFIC CONTROL DEVICES** 634.68 WORK IN VICINITY OF EXIT RAMP Published Date: 1st Qtr. 2021 Sheet I of I

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Sheet I of I



Chord Line

GENERAL NOTES:

Examples of-60"Chord Line Clearance Checks

Top of Anchor Post or Slip Base-



ELEVATION VIEW

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

Ground Line-

PLAN VIEW (Examples of stub height clearance checks)

> PLATE NUMBER *634.*99

July I, 2005

Sheet | of |

-Anchor Post or Slip Base

20" Diameter

clearance checks)

(Perimeter of stub height

PROJECT STATE OF SHEET TOTAL SHEETS 029 S-171, 029 S-172 029 N-291 10 DAKOTA

Plotting Date: 03/19/2021

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

029 S-171, PCN i62K

		E	EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT	
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0	
R2-1	SPEED LIMIT 65	2	36" x 48"	12.0	24.0	
R2-1	SPEED LIMIT 80	1	36" x 48"	12.0	12.0	
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0	
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0	
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16.0	32.0	
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0	
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3	
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0	
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0	
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0	
SPECIAL	EXIT 157 (3 digits) (45° ARROW)	1	60" x 48"	20.0	20.0	
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0	
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT 26			260.3	

029 S-172, PCN i62L

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 65	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 80	1	36" x 48"	12.0	12.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
			SSWAY / INTE		234.0

029 N-291, PCN i6CF

		EXPRESSWAY / INTERSTATE			TE
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 65	1	36" x 48"	12.0	12.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W4-1	MERGE (symbol)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0
SPECIAL	EXIT 1 (1 or 2 digits) (45° ARROW)	1	60" x 48"	20.0	20.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
	EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			249.9	

